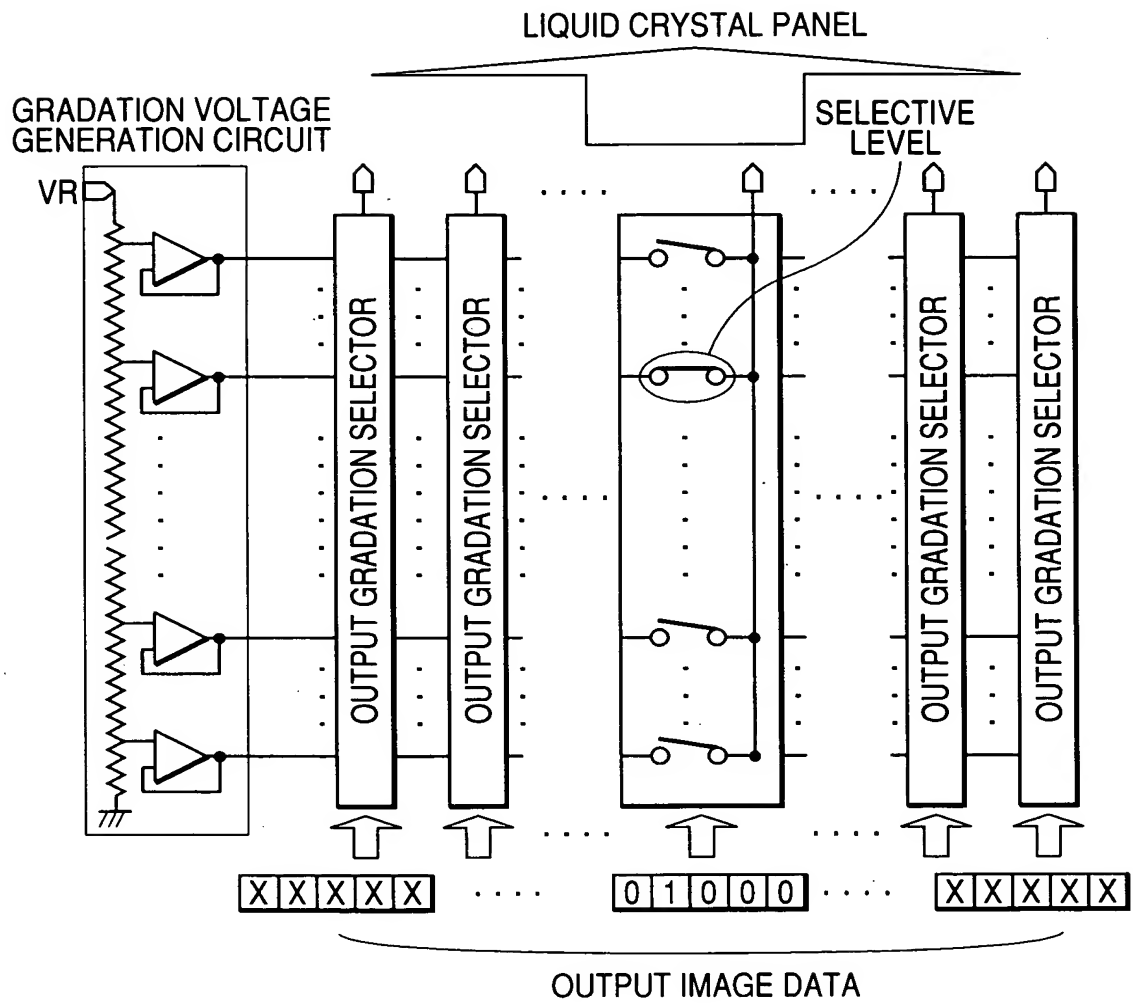


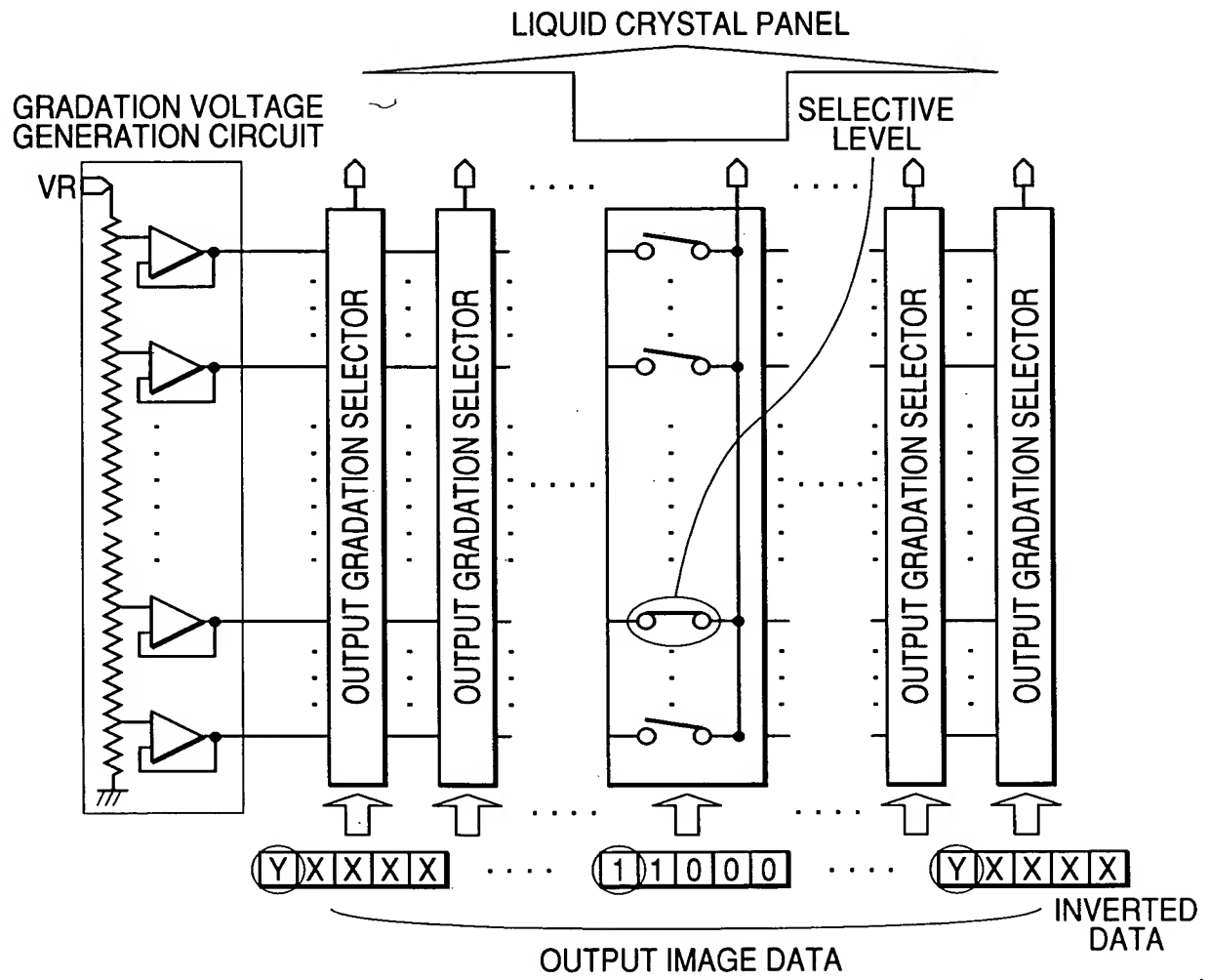
**FIG. 2**

POSITIVE PHASE



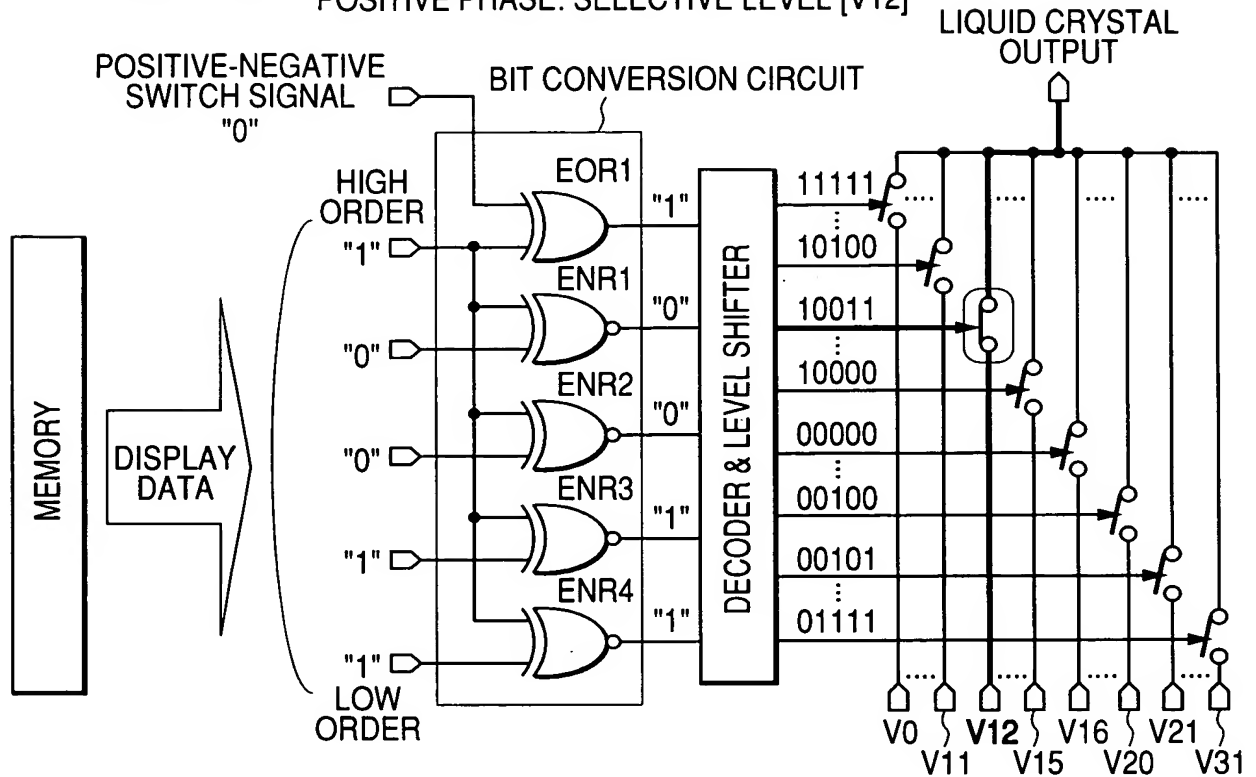
**FIG. 3**

NEGATIVE PHASE

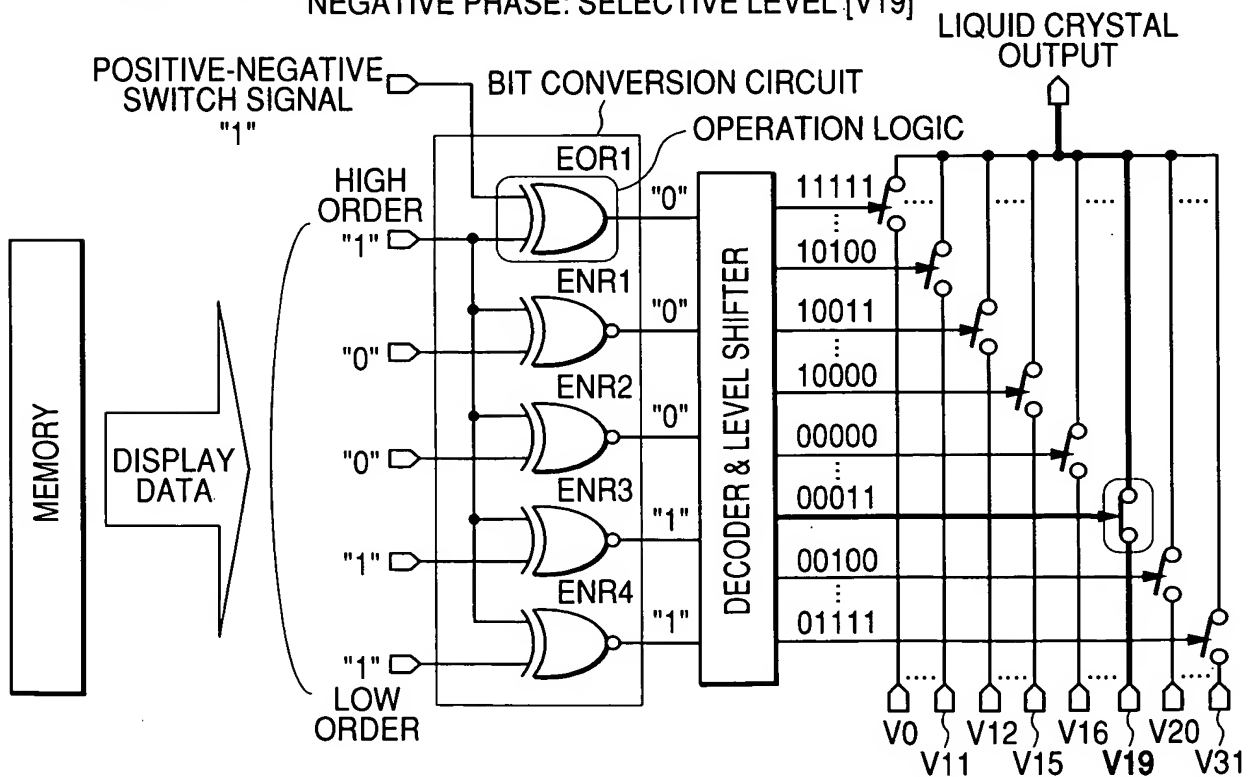


**FIG. 4**

POSITIVE PHASE: SELECTIVE LEVEL [V12]

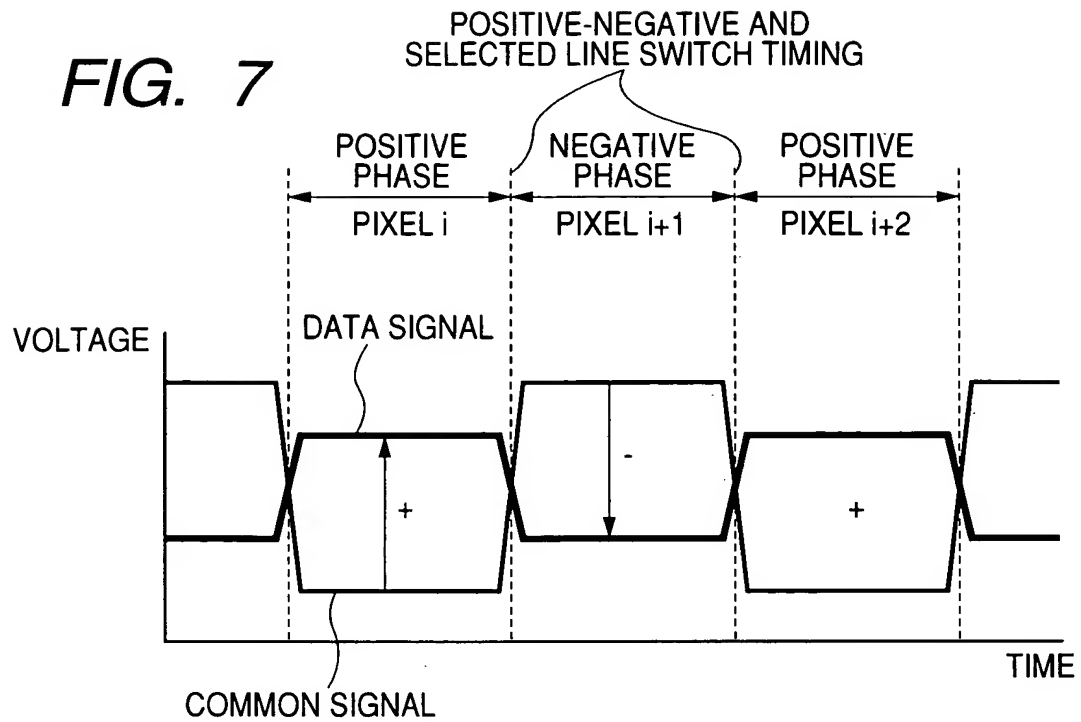
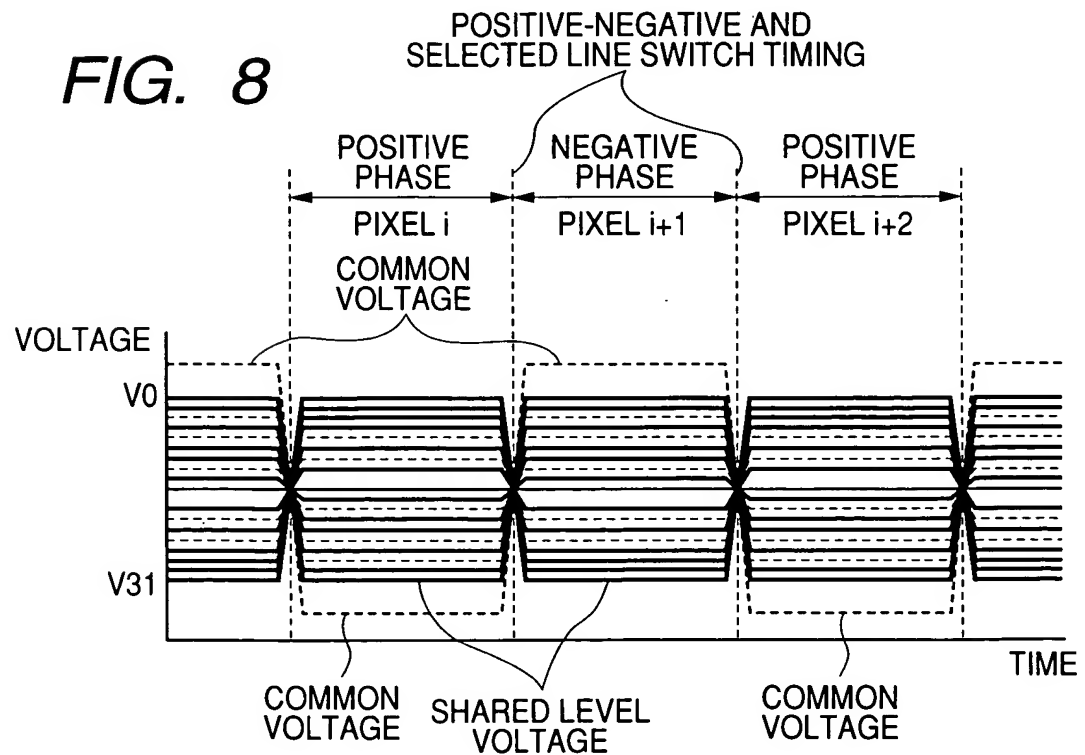
**FIG. 5**

NEGATIVE PHASE: SELECTIVE LEVEL [V19]



**FIG. 6**

| GRADATION    | DISPLAY DATA<br>IN DISPLAY<br>MEMORY | POSITIVE PHASE |                 | NEGATIVE PHASE |                 |
|--------------|--------------------------------------|----------------|-----------------|----------------|-----------------|
|              |                                      | DATA BIT       | SELECTIVE LEVEL | DATA BIT       | SELECTIVE LEVEL |
| GRADATION 0  | 11111                                | 11111          | V0              | 01111          | V31             |
| GRADATION 1  | 11110                                | 11110          | V1              | 01110          | V30             |
| GRADATION 2  | 11101                                | 11101          | V2              | 01101          | V29             |
| GRADATION 3  | 11100                                | 11100          | V3              | 01100          | V28             |
| GRADATION 4  | 11011                                | 11011          | V4              | 01011          | V27             |
| GRADATION 5  | 11010                                | 11010          | V5              | 01010          | V26             |
| GRADATION 6  | 11001                                | 11001          | V6              | 01001          | V25             |
| GRADATION 7  | 11000                                | 11000          | V7              | 01000          | V24             |
| GRADATION 8  | 10111                                | 10111          | V8              | 00111          | V23             |
| GRADATION 9  | 10110                                | 10110          | V9              | 00110          | V22             |
| GRADATION 10 | 10101                                | 10101          | V10             | 00101          | V21             |
| GRADATION 11 | 10100                                | 10100          | V11             | 00100          | V20             |
| GRADATION 12 | 10011                                | 10011          | V12             | 00011          | V19             |
| GRADATION 13 | 10010                                | 10010          | V13             | 00010          | V18             |
| GRADATION 14 | 10001                                | 10001          | V14             | 00001          | V17             |
| GRADATION 15 | 10000                                | 10000          | V15             | 00000          | V16             |
| GRADATION 16 | 01111                                | 00000          | V16             | 10000          | V15             |
| GRADATION 17 | 01110                                | 00001          | V17             | 10001          | V14             |
| GRADATION 18 | 01101                                | 00010          | V18             | 10010          | V13             |
| GRADATION 19 | 01100                                | 00011          | V19             | 10011          | V12             |
| GRADATION 20 | 01011                                | 00100          | V20             | 10100          | V11             |
| GRADATION 21 | 01010                                | 00101          | V21             | 10101          | V10             |
| GRADATION 22 | 01001                                | 00110          | V22             | 10110          | V9              |
| GRADATION 23 | 01000                                | 00111          | V23             | 10111          | V8              |
| GRADATION 24 | 00111                                | 01000          | V24             | 11000          | V7              |
| GRADATION 25 | 00110                                | 01001          | V25             | 11001          | V6              |
| GRADATION 26 | 00101                                | 01010          | V26             | 11010          | V5              |
| GRADATION 27 | 00100                                | 01011          | V27             | 11011          | V4              |
| GRADATION 28 | 00011                                | 01100          | V28             | 11100          | V3              |
| GRADATION 29 | 00010                                | 01101          | V29             | 11101          | V2              |
| GRADATION 30 | 00001                                | 01110          | V30             | 11110          | V1              |
| GRADATION 31 | 00000                                | 01111          | V31             | 11111          | V0              |

**FIG. 7****FIG. 8**

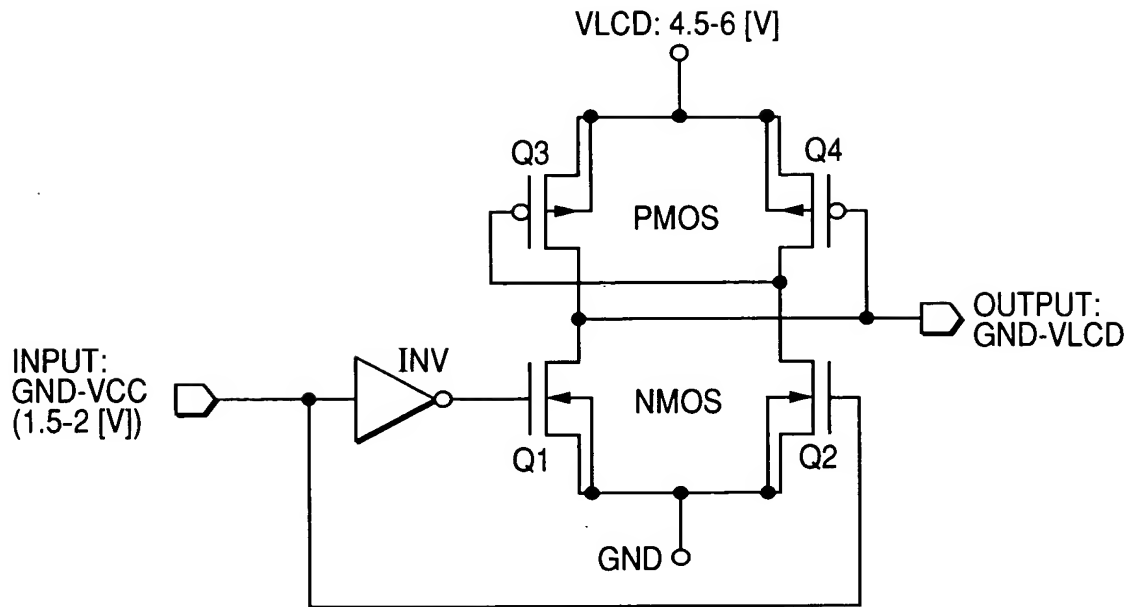
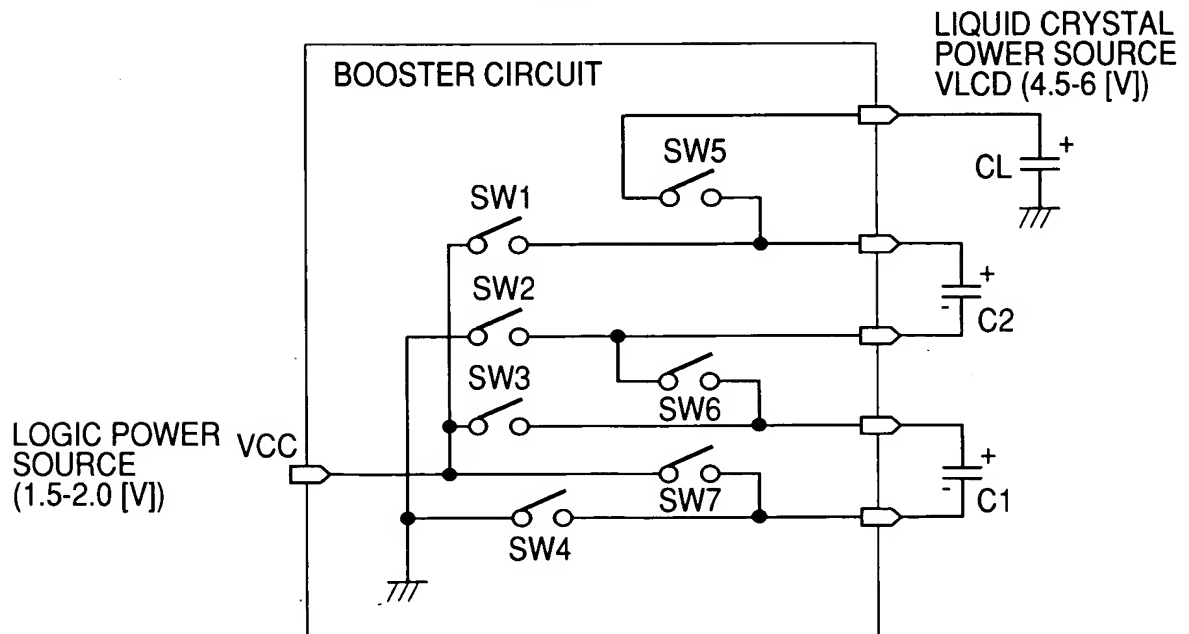
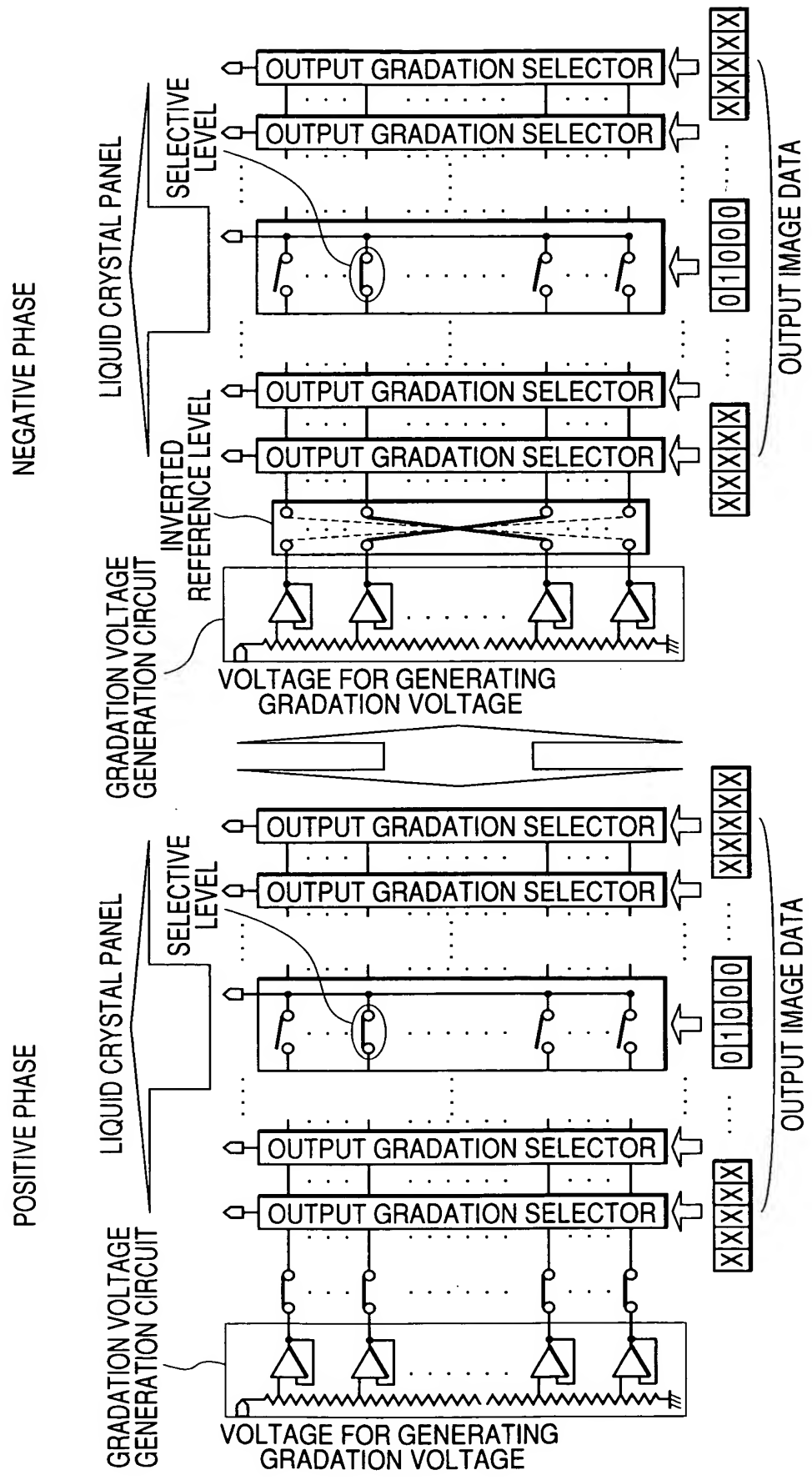
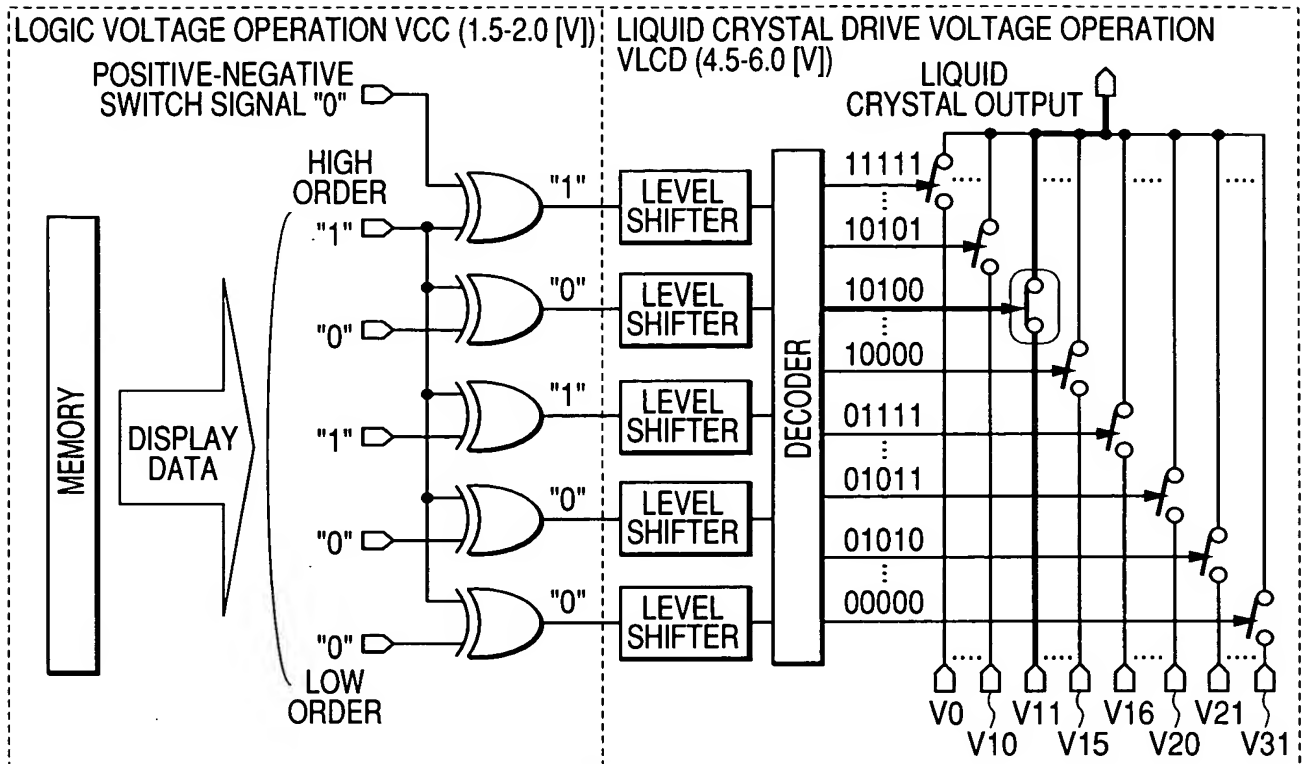
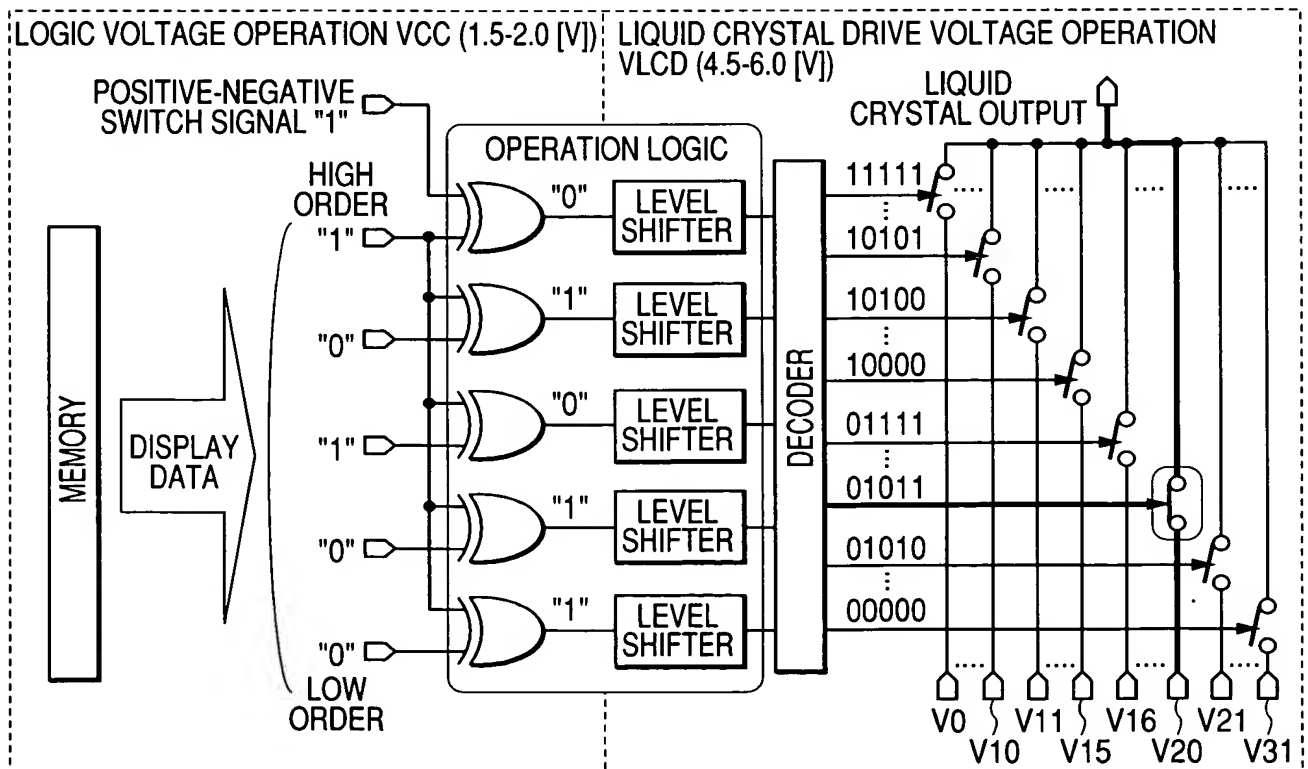
**FIG. 9****FIG. 10**

FIG. 11





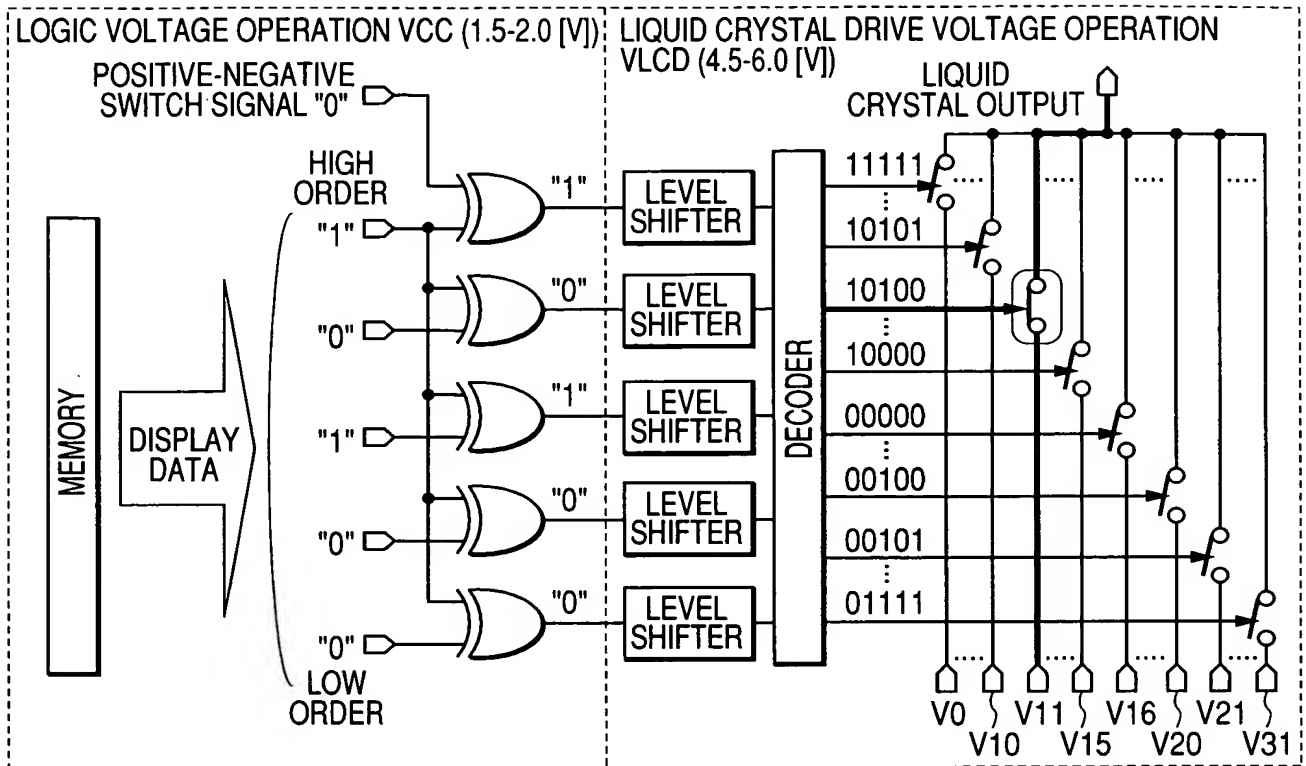
**FIG. 12** POSITIVE PHASE: SELECTIVE LEVEL [V11]**FIG. 13** NEGATIVE PHASE: SELECTIVE LEVEL [V20]

**FIG. 14**

| GRADATION    | DISPLAY DATA<br>IN DISPLAY<br>MEMORY | POSITIVE PHASE |                 | NEGATIVE PHASE |                 |
|--------------|--------------------------------------|----------------|-----------------|----------------|-----------------|
|              |                                      | DATA BIT       | SELECTIVE LEVEL | DATA BIT       | SELECTIVE LEVEL |
| GRADATION 0  | 11111                                | 11111          | V0              | 00000          | V31             |
| GRADATION 1  | 11110                                | 11110          | V1              | 00001          | V30             |
| GRADATION 2  | 11101                                | 11101          | V2              | 00010          | V29             |
| GRADATION 3  | 11100                                | 11100          | V3              | 00011          | V28             |
| GRADATION 4  | 11011                                | 11011          | V4              | 00100          | V27             |
| GRADATION 5  | 11010                                | 11010          | V5              | 00101          | V26             |
| GRADATION 6  | 11001                                | 11001          | V6              | 00110          | V25             |
| GRADATION 7  | 11000                                | 11000          | V7              | 00111          | V24             |
| GRADATION 8  | 10111                                | 10111          | V8              | 01000          | V23             |
| GRADATION 9  | 10110                                | 10110          | V9              | 01001          | V22             |
| GRADATION 10 | 10101                                | 10101          | V10             | 01010          | V21             |
| GRADATION 11 | 10100                                | 10100          | V11             | 01011          | V20             |
| GRADATION 12 | 10011                                | 10011          | V12             | 01100          | V19             |
| GRADATION 13 | 10010                                | 10010          | V13             | 01101          | V18             |
| GRADATION 14 | 10001                                | 10001          | V14             | 01110          | V17             |
| GRADATION 15 | 10000                                | 10000          | V15             | 01111          | V16             |
| GRADATION 16 | 01111                                | 01111          | V16             | 10000          | V15             |
| GRADATION 17 | 01110                                | 01110          | V17             | 10001          | V14             |
| GRADATION 18 | 01101                                | 01101          | V18             | 10010          | V13             |
| GRADATION 19 | 01100                                | 01100          | V19             | 10011          | V12             |
| GRADATION 20 | 01011                                | 01011          | V20             | 10100          | V11             |
| GRADATION 21 | 01010                                | 01010          | V21             | 10101          | V10             |
| GRADATION 22 | 01001                                | 01001          | V22             | 10110          | V9              |
| GRADATION 23 | 01000                                | 01000          | V23             | 10111          | V8              |
| GRADATION 24 | 00111                                | 00111          | V24             | 11000          | V7              |
| GRADATION 25 | 00110                                | 00110          | V25             | 11001          | V6              |
| GRADATION 26 | 00101                                | 00101          | V26             | 11010          | V5              |
| GRADATION 27 | 00100                                | 00100          | V27             | 11011          | V4              |
| GRADATION 28 | 00011                                | 00011          | V28             | 11100          | V3              |
| GRADATION 29 | 00010                                | 00010          | V29             | 11101          | V2              |
| GRADATION 30 | 00001                                | 00001          | V30             | 11110          | V1              |
| GRADATION 31 | 00000                                | 00000          | V31             | 11111          | V0              |

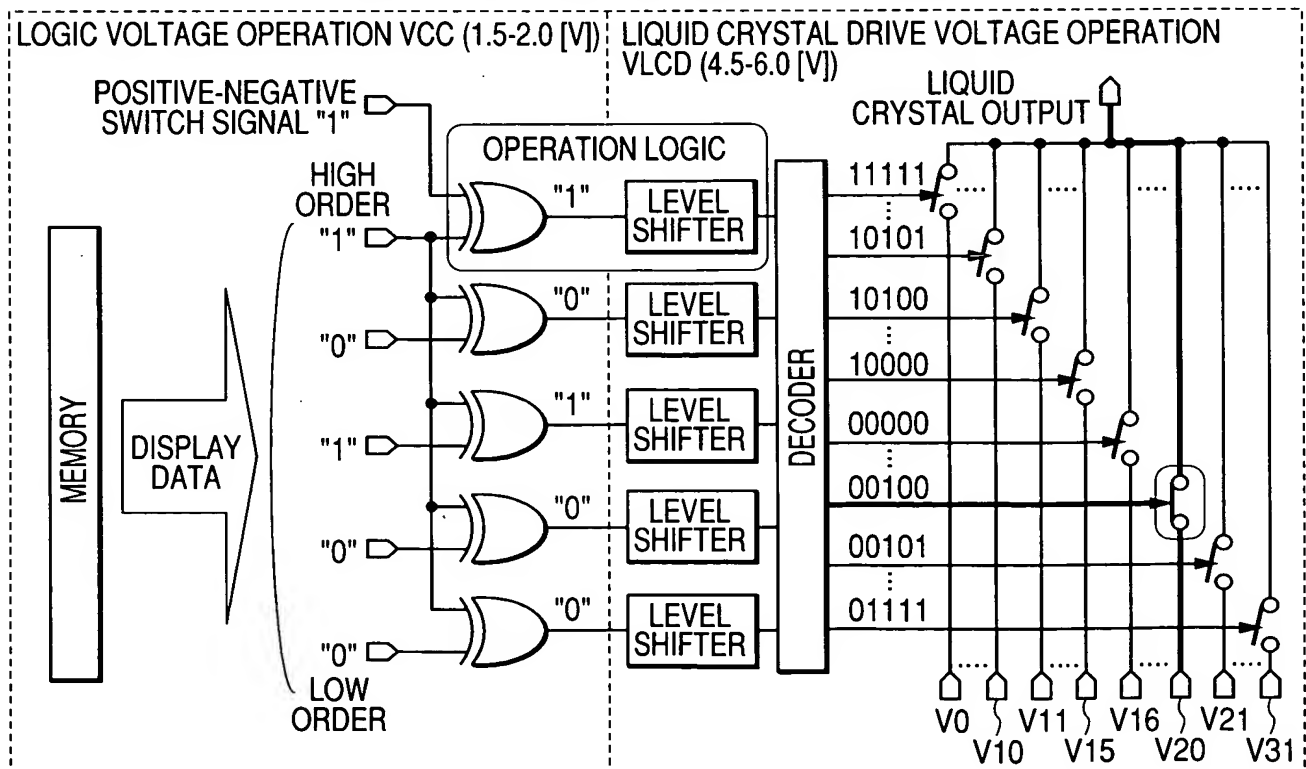
**FIG. 15**

POSITIVE PHASE: SELECTIVE LEVEL [V11]



POSITIVE-NEGATIVE SWITCH

NEGATIVE PHASE: SELECTIVE LEVEL [V20]



**FIG. 16**

